

REMARKS

Claims 1-8, 10, 30-33, 35, 44, 65, 68 and 70-83 are pending. By this Amendment, claim 1 is amended to incorporate the features of claim 9, and further amended for clarity. Claim 30 is amended to incorporate the features of claim 34, and further amend for clarity. Claims 9, 11-29, 34, 36-43, 45-64, 66, 67 and 69 are canceled without prejudice to or disclaimer of the subject matter that these claims recite. Claims 70-83 are added. Support for the added claims can be found throughout Applicants' specification. Thus, no new matter is added. Reconsideration of the application based on the above amendments and following remarks is respectfully requested.

The form PTOL-326 of the Office Action in section 4a indicates that claims 5 and 7 are withdrawn. However, claims 5 and 7 are included in the elected species A. Thus, Applicants believe that claims 5 and 7 recite allowable subject matter. Further, section 4a of the PTOL-326 indicates that claims 11-35 are "withdrawn from consideration," however, claims 11-13 and 30-35 are rejected under 35 U.S.C. §103(a) in the body of the Office Action. The rejection of claims 30-35 is addressed below.

Claim 1 is rejected under 35 U.S.C. §102(b) over Nei '386, U.S. Patent No. 5,864,386; and claims 2-4, 6, 8-9, 11-13, 36 and 40 are rejected under 35 U.S.C. §103(a) over Nei '836 in view of Tabarelli, U.S. Patent No. 4,509,852. The rejection of claim 1 is rendered moot by the incorporation of the features of claim 9 into claim 1. The rejection with respect to the features previously recited in claim 9 is respectfully traversed.

One having ordinary skill in the art would not have predictably modified Nei '386 in view of Tabarelli to obtain the features recited in amended claim 1.

In rejecting claim 9, the Office Action alleges that it would have been obvious, to one of ordinary skill in the art, to incorporate the immersion system of Tabarelli in the exposure system Nei '386 so that irradiating an exposure light beam onto a substrate through a liquid is possible.

The Office Action asserts that the modification would be made based on the temperature adjustment system of Nei '386 which performs a temperature adjustment of the substrate-holding member would change the temperature of the liquid which has a physical contact with the substrate-holding member and in turn changes the temperature of the optical member which is a physical contact with the immersion liquid. See Office Action, page 4, line 16- page 5, line 2.

2. The Office Action's analysis fails for at least the following reasons.

Because Nei '386 teaches controlling the temperature of the wafer holder 12 and wafer table 14, and Tabarelli teaches controlling the temperature of the liquid 6, one of ordinary skill in the art would not combine Nei '386 with Tabarelli to obtain the features recited in claim 1. If Nei '386 and Tabarelli were combined, one of ordinary skill in the art would control the temperature of the wafer holder 12 and wafer table 14 independently of the liquid.

Regarding Nei '386, this reference discloses that, during the exposure, temperature of the radiation monitor 28 rises. The heat from this exposure is transmitted to the wafer table 14 as indicated by arrow F1 in Fig. 1. During this time, the heat medium is circulated through the circulation path 32 in the wafer table. The heat transmitted to the wafer table 14 is discharged to the outside of the wafer holder 12, so that transfer of the heat to the moving mirror 20 and the fiduciary mark 24 is inhibited.

When the exposure operation is initiated, the wafer 10 absorbs the energy of the exposing light so that the temperature of the wafer 10 rises. The heat is gradually transmitted from the wafer 10 to the wafer holder 12, as indicated by arrow F2. However, the wafer holder 12 is temperature-controlled. Accordingly, the heat transmitted from the wafer 10 is transferred to the heat medium in the circulation path 30, and is discharged to the outside of the wafer holder 12. Furthermore, even if the heat is transmitted from the wafer holder 12 to the wafer table 14, as indicated by arrow F3, the heat is discharged to the outside of the wafer

holder 12 by the heat medium circulating through the circulation path 32 inside the wafer table.

See Nei '386, col. 4, lines 42-65.

Based on this portion of Nei, '386, one of ordinary skill in the art would understand that Nei '386 controls the temperature of the wafer holder 12 and the wafer table 14.

Tabarelli discloses, at the portion cited by the Office Action, col. 6, lines 28-42, that the temperature of the liquid 6 is controlled. Tabarelli discloses temperature stabilization of the semiconductor disk. Tabarelli discloses that the liquid cleans the semiconductor disk retained on the support by means of vacuum lines and keeps the temperature of the disk constant. That is, based on the above disclosure of Tabarelli one of ordinary skill in the art would understand that Tabarelli controls the temperature of the liquid.

Thus, even if a person of ordinary skill in the art combined Nei '386 and Tabarelli, the result would be that control of the temperature of the wafer holder and the wafer table would be independently controlled from the temperature of the liquid.

The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”” *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396. See MPEP §2141. Based on the diverse teachings of the applied references, one of ordinary skill in the art would not have predictably combined Nei '386 and Tabarelli to obtain the features recited in claim 1.

Accordingly, Nei '386 in view of Tabarelli also would not have rendered obvious the combinations of features recited in claims 2-4, 6, 8 and 44 for at least the dependence of these claims on claim 1, and for the separately patentable features that these claims recite.

Withdrawal of the rejection is respectfully requested.

Claim 10 is rejected under 35 U.S.C. §103(a) over Nei '386 in view of Mori, U.S. Patent No. 5,063,582. Mori fails to overcome the deficiencies of Nei '386 and Tabarelli explained above regarding claim 1. Accordingly, the features recited in claim 10 would not have been rendered obvious by the applied references for at least the dependence of claim 10 on claim 1 and for the separately patentable features that claim 10 recites. Withdrawal of the rejection is respectfully requested.

Claims 30-35, 65 and 68 are rejected under 35 U.S.C. §103(a) over Nei, U.S. Patent Application Publication No. 2005/0219489, hereafter Nei '489 in view of Nei '386. The rejection is respectfully traversed.

Nei '489 in view of Nei '386 would not have rendered obvious temperature adjustment systems which are provided for the first substrate stage and the second substrate stage respectively and which perform temperature adjustment for the substrate-holding member of each of the stages depending on a temperature of the liquid to be supplied from the liquid supply system, as recited in claim 30.

In rejecting claim 34, the Office Action's assertions on pages 8-9 regarding claims 30-35 in view of Nei '489 and Nei '386 are the same as the Office Action's assertions regarding claim 8. That is, the Office Action does not specifically discuss the features of claim 34 based on Nei '489 and Nei '386. Because the Office Action fails to specifically indicate which features of Nei '489 and Nei '386 that it alleges correspond to the features now recited in claim 30, Applicants cannot reasonably ascertain which features of the applied references the Patent Office alleges correspond to Applicants' claimed features. Furthermore, Applicants respectfully submit that claim 30 is patentable over Nei '386 and Tabarelli for reasons similar to those explained above regarding amended claim 1. Nei '489 fails to overcome the deficiencies of Nei '386 and Tabarelli explained above regarding claim 1. Furthermore, the Office Action acknowledges that Nei '489 does not disclose a temperature adjustment system. See Office

Action page 7, lines 8-11. Thus, the applied references would not have rendered obvious the combinations of features recited in claim 30. Furthermore, the combinations of applied references would not have rendered obvious the combinations of features recited in claims 31-35, 65 and 68 for at least the dependence of these claims on claim 30 and for the separately patentable features that these claims recite. Withdrawal of the rejection is respectfully requested.

Added claims 70-83 also are patentable over the applied references. Claims 70-73 are patentable at least based on their dependence on claim 1 and for the separately patentable features that these claims recite. Added independent claim 74 is patentable for reasons similar to those explained above regarding claim 1. Dependent claims 75-83 are patentable at least for their dependence on claim 74 and for the separately patentable features that these claims recite.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Date: August 4, 2010

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